

ABSTRACT

It is an object of the present invention to provide a control technique for reducing wavelength dependence of wavelength dispersion values and also for suppressing a change in wavelength transmission characteristic with a temperature variation or the like, in a VIPA-type wavelength dispersion compensator. In order to achieve the object, the present VIPA-type wavelength dispersion compensator comprises: a VIPA plate capable of emitting incident lights in different directions according to wavelengths; a free-form surface mirror reflecting, at a previously set position, the lights of respective wavelengths emitted from the VIPA plate to return the reflected lights to the VIPA plate; a case provided with a heater which variably changes the temperature of the VIPA plate, a temperature sensor measuring the temperature of the VIPA plate and the ambient temperature; and a control section that reads out data which is measured or the like before starting the operation to be stored in a storing section, according to the measurement result of the temperature sensor, and optimizes the position of the free-form surface mirror and the temperature of the VIPA plate based on the read data.